Listing of Claims:

1. (currently amended) An illumination system in an inspection system, comprising:

a light input array including light input ends of closely packed elongate optical fibers, the optical fibers having a cross-sectional dimension, and the input array having an array surface dimension greater than the fiber cross-sectional dimension;

a substantially linear light output array including adjacent light output ends of the optical fibers;

a light source for emitting light into the light input array, the optical fibers being adapted for propagating the light and emitting it from the light output array, the light output array being adapted for producing a light line that impinges on an inspection target comprising wood; and

an image sensing system that includes at least a first image sensor for obtaining optical information about the target in response to the light line impingement on the target.

2. (currently amended) The illumination system of claim 1 further comprising:

first and second optical fibers having respective first and second input ends that are adjacent in the input array and respective first and second output ends that are collinear and separated by at least a third output end in the light output array.

3. (canceled) The illumination system of claim 1 in which the target comprises wood.

4. (currently amended) The illumination system of claim ~~3~~ 1 in which the image sensing system detects target geometric data.

5. (original) The illumination system of claim 4 in which the image sensing system detects tracheid data.

6. (original) The illumination system of claim 5 in which the image sensing system detects color data.

7. (original) The illumination system of claim 4 in which the image sensing system detects color data.

8. (currently amended) The illumination system of claim 1 further comprising:

a blinder in proximity to the light output array to create a dark area on a surface of the target to facilitate detection of tracheid data by the image sensing system.

9. (currently amended) The illumination system of claim 8 in which the blinder is positioned adjacent to and parallel with the light output array.

10. (currently amended) The illumination system of claim 9 in which the blinder determines a blinder plane that is transverse to the target, the light output array is positioned on a first side of the blinder plane, and the image sensing system comprises a black and white tracheid image sensor positioned to obtain tracheid data from a different second side of the blinder plane.

11. (currently amended) The illumination system of claim 10 in which the image sensing system comprises a color image sensor positioned to obtain target surface data from the first side of the blinder plane.

12. (currently amended) The illumination system of claim 10 in which the image sensing system comprises a fast image sensor positioned to obtain target geometric data from the first side of the blinder plane.

13. (currently amended) The illumination system of claim 12 in which the target determines a target plane and the image sensing system comprises at least one tracheid image sensor and at least one fast image sensor positioned on each side of the target plane.

14. (original) A method for detecting characteristics of lumber having first and second opposing surfaces, comprising:

directing light into input ends of a bundle of closely packed optical fibers;

impinging the first surface of lumber with the light in a form of a light line from a light output array of output ends of the optical fibers;

employing a blinder, positioned in proximity to the light output array and defining a blinder plane transverse to the lumber between first and second blinder sides such that the light output array is positioned on the first blinder side, to create a dark area on the first surface on the second blinder side and create a light area on the first surface on the first blinder side;

obtaining geometric data from the light area; and

substantially simultaneously obtaining tracheid data from the dark area.

15. (original) The method of claim 14 further comprising:

directing light into second input ends of a second bundle of closely packed second optical fibers;

impinging the second surface of lumber with the light in a form of a second light line from a second light output array of second output ends of the second optical fibers;

employing a second blinder, positioned in proximity to the second light output array and substantially coplanar with the blinder plane, to create a second dark area on the

second surface on the second blinder side and create a second light area on the second surface on the first blinder side;

obtaining geometric data from the second light area; and

substantially simultaneously obtaining tracheid data from the second dark area.

16. (new) The method of claim 14 further comprising employing an image sensing system that detects color data.

17. (new) The method of claim 15 further comprising employing an image sensing system that detects color data.

18. (new) The method of claim 14 in which the blinder is positioned adjacent to and parallel with the light output array.

19. (new) The method of claim 14 in which the target determines a target plane, further comprising employing an image sensing system that has at least one tracheid image sensor and at least one fast image sensor positioned on each side of the target plane.

20. (new) The method of claim 15 in which the target determines a target plane, further comprising employing an image sensing system that has at least one tracheid image sensor and at least one fast image sensor positioned on each side of the target plane.

21. (new) An illumination system in an inspection system, comprising:

a light input array including light input ends of closely packed elongate optical fibers, the optical fibers having a cross-sectional dimension, and the input array having an array surface dimension greater than the fiber cross-sectional dimension;

a substantially linear light output array including adjacent light output ends of the optical fibers;

a light source for emitting light into the light input array, the optical fibers being adapted for propagating the light and emitting it from the light output array, the light output array being adapted for producing a light line that impinges on an inspection target;

an image sensing system that includes at least a first image sensor for obtaining optical information about the target in response to the light line impingement on the target; and

a blinder in proximity to the light output array to create a dark area on a surface of the target to facilitate detection of tracheid data by the image sensing system.

22. (new) The illumination system of claim 21 in which the image sensing system detects color data.

23. (new) The illumination system of claim 21 in which the blinder is positioned adjacent to and parallel with the light output array.

24. (new) The illumination system of claim 21 in which the target determines a target plane and the image sensing system has at least one tracheid image sensor and at least one fast image sensor positioned on each side of the target plane.